

IN THE CLAIMS

Please amend the claims as follows:

Claims 1-31 (Canceled).

Claim 32 (New): A magnetic actuator comprising:

a mobile magnetic part;

a fixed magnetic part;

means for triggering displacement of the mobile magnetic part relative to the fixed magnetic part;

wherein at least two amagnetic supports, placed in different planes, delimit a gap between them, the fixed magnetic part being integral with at least one of the supports, the supports each having an abutment area for the mobile part, the abutment area and the fixed magnetic part being distinct, the mobile magnetic part being in levitation in the gap between both supports by magnetic guiding due to the fixed magnetic part, when the mobile magnetic part is not abutted against the abutment area of one of the supports,

wherein the mobile magnetic part is configured to assume plural stable magnetic positions, and in each of the positions the mobile magnetic part is abutted against a support.

Claim 33 (New): The magnetic actuator according to claim 32, wherein the mobile magnetic part comprises a magnet.

Claim 34 (New): The magnetic actuator according to claim 32, wherein the fixed magnetic part comprises at least one magnetic component part.

Claim 35 (New): The magnetic actuator according to claim 34, wherein the magnetic component part comprises a magnet.

Claim 36 (New): The magnetic actuator according to claim 34, wherein the magnetic component part comprises thermomagnetic.

Claim 37 (New): The magnetic actuator according to claim 32, wherein the fixed magnetic part comprises at least a pair of magnetic component parts on a support.

Claim 38 (New): The magnetic actuator according to claim 32, wherein the mobile magnetic part and at least one of the supports include means for centering the mobile magnetic part on the abutment area of the at least one of the supports.

Claim 39 (New): The magnetic actuator according to claim 38, wherein the means for centering comprises substantially bevel-shaped relief features, borne both by the at least one of the supports and the mobile magnetic part, the relief features having conjugate shapes.

Claim 40 (New): The magnetic actuator according to claim 32, wherein the fixed magnetic part contributes to delimiting at least one of the abutment areas.

Claim 41 (New): The magnetic actuator according to claim 32, wherein the means for triggering the displacement of the mobile magnetic part is borne by at least one of the supports.

Claim 42 (New): The magnetic actuator according to claim 41, wherein the means for triggering the displacement of the mobile magnetic part has a magnetic effect.

Claim 43 (New): The magnetic actuator according to claim 42, wherein the means for triggering the displacement of the mobile magnetic part comprises a heater configured to change magnetic characteristics of the fixed magnetic part.

Claim 44 (New): The magnetic actuator according to claim 43, wherein the means for triggering the displacement of the mobile magnetic part creates a magnetic field in a vicinity of the mobile magnetic part.

Claim 45 (New): The magnetic actuator according to claim 44, wherein the means for triggering the displacement of the mobile magnetic part comprises at least one conductor, in a vicinity of the mobile magnetic part, the at least one conductor configured to have an electric current flow through it.

Claim 46 (New): The magnetic actuator according to claim 45, further comprising means for controlling current to be caused to flow into the at least one conductor, by a position of the mobile magnetic part so that the mobile magnetic part can assume a plurality of stable positions in levitation.

Claim 47 (New): The magnetic actuator according to claim 32, wherein the means for triggering the displacement of the mobile magnetic part comprises a pneumatic or hydraulic mechanism.

Claim 48 (New): The magnetic actuator according to claim 32, wherein the fixed magnetic part is made in a material selected from the group of soft magnetic materials, hard magnetic materials, materials with hysteresis, superconducting materials, diamagnetic materials, these materials being taken alone or combined.

Claim 49 (New): The magnetic actuator according to claim 32, wherein a magnetization of the fixed magnetic part and a magnetization of the mobile magnetic part point in a same direction.

Claim 50 (New): The magnetic actuator according to claim 32, wherein at least one abutment area comprises a pair of electrical contacts, and wherein the mobile magnetic part comprises at least one electrical contact, the mobile magnetic part moving to connect both electrical contacts of the pair of contacts when the mobile magnetic part abuts against the abutment area.

Claim 51 (New): The magnetic actuator according to claim 32, wherein at least one of the supports comprises a fluid inlet port in the abutment area.

Claim 52 (New): The magnetic actuator according to claim 32, wherein the mobile magnetic part comprises a mirror configured to pass through a slot of one of the supports.

Claim 53 (New): The magnetic actuator according to claim 32, wherein the supports are made based on semiconducting material, dielectric material, or conducting material, these materials being taken alone or combined.

Claim 54 (New): A matrix of magnetic actuators comprising a plurality of magnetic actuators according to claim 32, the magnetic actuators sharing at least one same support.

Claim 55 (New): A method for making a magnetic actuator, comprising:

on a first amagnetic substrate, making a sacrificial frame along a contour of a base of a mobile magnetic part;

depositing a first dielectric layer on the first substrate and making at least a casing configured to receive a fixed magnetic part;

depositing in the casing the fixed magnetic part;

depositing a second dielectric layer on the first dielectric layer and making casings configured to receive the mobile magnetic part and at least one conductor of a means for triggering displacement of the mobile magnetic part;

depositing in the casings the mobile magnetic part and the conductor;

etching in the dielectric layers one or plural trenches reaching the sacrificial frame;

assembling the first substrate turned upside down onto a second amagnetic substrate to delimit a gap between both substrates, the gap for displacing the mobile magnetic part; and

etching the first substrate and removing the sacrificial frame to release the mobile magnetic part and the base.

Claim 56 (New): The method according to claim 55, wherein the gap is formed of at least one spacer inserted between the first and second substrate at a time of assembly.

Claim 57 (New): The method according to claim 55, wherein the gap is formed by beads in a melttable material, inserted between the first and second substrate at a time of assembly and by annealing the beads after assembly.

Claim 58 (New): The method according to claim 55, further comprising, before assembling both substrates:

making in a first dielectric layer on the second substrate, at least one casing configured to receive the fixed magnetic part;
depositing in the casing the fixed magnetic part;
depositing a second dielectric layer on the first dielectric layer and making at least one casing configured to receive at least one conductor of the means for triggering the displacement of the mobile magnetic part; and
depositing in the casing the conductor.

Claim 59 (New): The method according to claim 55, further comprising magnetizing the mobile magnetic part and the fixed magnetic part before the releasing the mobile magnetic part.

Claim 60 (New): The method according to claim 55, wherein the first substrate is tapered before the etching the first substrate, the etched part having a mirror function.

Claim 61 (New): The method according to claim 55, wherein the first substrate is made based on a semiconducting or dielectric material.

Claim 62 (New): The method according to claim 55, wherein the second substrate is made based on a semiconducting or dielectric material.